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Working Document for 9/25/07 Public Workshop

Draft List of Obstacles to and Incentives for Energy-Efficient Private Sector Commercial Buildings

	Obstacles	Suggested Incentives
1	**Lack of sufficiently compelling value proposition or business case for building owners/managers** - Case studies of energy efficiency successes are difficult to obtain or understand - Metrics of "success" are not well understood (occupant comfort, environmental benefits, reduced callbacks for heating and air conditioning systems, better control of energy expenses) or metrics are inconsistent or disjointed - Payback on individual energy efficiency measures may be too long for owner's preferred rate of return (financial drivers not well understood)	- Make clear, understandable case studies more available (work with real estate industry on appropriate venues) - Develop consistent methodology and approach for measurement and verification of results - Develop a list of qualified contractors to assist in documenting energy savings, applying the approved methodology for payment of incentives or other assistance (possibly include further benefits such as greenhouse gas emissions reductions) - Based on lower risks, offer lower insurance rates - Create community recognition programs for exemplary buildings - Guarantee faster plan check/permitting for energy-efficient buildings going x percent beyond Title 24, Part 6 (energy code) - Exempt energy-efficient buildings that are x percent beyond Title 24 from power outages during rolling blackouts

2	**Perceived or real higher first costs and financial disconnect between first costs and long-term operating costs**	- "Frontload" incentives to minimize initial cash outlays
		  o Option to frontload incentives to offset initial cash outlays/capital investment OR performance-based incentives over the life of the measure (let customers choose what best meets their needs)
		  o Flexibility to offer incentives to whichever party (owner, manager, tenant) makes the investment
		  o Ability to compensate investing party's initial investment AND have investing party share in future benefits
		- Subsidize higher efficiency air conditioning equipment
		- Offer low-interest financing (e.g., Energy Commission's Energy Efficiency Partnership Program, but for private entities)

Comment [HF1]: As an additional related obstacle, owners think their buildings are already run efficiently.

Comment [HF2]: How will this effort relate to the CA utilities investment in EM&V procedures? Will these efforts use what they come up with? The differences in the needs of owners and utilities for verification should be addressed. The amount of money owners are willing to invest in verification to offset their risk is generally less than the cost of the utilities EM&V process.

Comment [HF3]: Who bears the risk in this incentive strategy would need to be worked out. Would the owner forego incentives if the energy savings weren't verified? Or is this a penalty to the utility (or Program implementer)? It is good to create "hooks" so that energy savings get implemented, however adding the risk of lost incentive to the owner may lead to lower owner participation in the efficiency programs – it adds a barrier to entry.

		- Offer tax credits - Allow carbon trading/selling of emissions credits
3	**Perception of "too difficult"** - Too many choices in possible efficiency measures or incentive programs - Extra effort needed to identify and evaluate options, develop a project, and schedule it - Competes with other priorities - Human nature - resistant to change/easy to be habitual	- Create ESCO-like services (one-stop shopping for analyses and packaging of projects; structure payments to be virtually invisible) - Fine-tune "Savings by Design" programs to focus on packaging total solutions that provide full design, financing, and implementation - Provide case studies (see #1 above) - Identify real estate industry peers to help educate/persuade - Subsidize infrared photography services to show heat loss through building envelopes, air ducts, HVAC equipment, etc.
4	**In multi-tenant buildings with one meter, inability to submeter tenant spaces** - Utility bills are based on square footage rather than actual energy use - Creates disconnect between tenant energy consumption and costs	- Allow submetering (this is resolved in PG&E territory) - Have appropriate checks and balances so tenants are treated fairly - Tailor incentive programs for submetered tenants and building owners
5	**In multi-tenant buildings with individual utility meters, a disconnect between those who control/manage energy features and tenants who pay energy bills** - Tenants have no control over choice and maintenance of HVAC equipment, condition of air ducts, lighting fixtures, etc.	- Realign incentive programs to reward party(s) that take action/make energy efficiency investment(s)
6	**Insufficient technical knowledge among building operations staff** - Staff not knowledgeable about selecting, maintaining, and operating energy-	- Provide affordable, convenient, practical education and information from credible sources o Include ongoing technical support to building operations staff (hotlines, on-site visits by trained outside technical staff, etc)

Comment [HF4]: There are issues regarding double-counting the benefits from mandated or public benefits charge-sponsored energy savings. Questions around additionality of energy savings and ownership of credits are being worked out through the CPUC and CARB.

Comment [HF5]: Raising the bar for professionalizing building operations is key. One mechanism for doing this is provide templates and sample documents on how to write "green" O&M service contracts that put energy performance into their incentive structure.

We see O&M staff that are overtaxed with maintenance issues, such that they cannot be proactive about building operations. As an example of the breadth of O&M staff responsibility, it is not uncommon that the same person who fixes the door handle also manages the building automation system. Incentives that support owners in training and retaining high-quality O&M staff will help improve the persistence of energy savings over time. Existing programs such as BOC (Building Operator Certification) should be supported as a delivery mechanism. Funding is necessary to develop new curriculum modules, although the implementation of the training is self-supporting.

	related equipment for efficiency - Staff not aware about how much their actions related to maintenance and operations impact energy use in their buildings - Job goals not structured around energy efficiency performance - Staff not knowledgeable about building components functioning as a system	
7	**Complexity of utility programs** - Utility incentive programs may be difficult to understand for all but the most sophisticated customers - Same for utility rate structures and utility bills	- Create utility/real estate industry collaboration to address this
8	**Utility communications with the private sector** - Anecdotal evidence of "utility-speak" differing from "real estate-speak (e.g., utilities speak "demand response" while real estate professionals need to understand financial drivers and more basic energy efficiency) - Business customer experiences reveal difficulty maneuvering through phone systems when calling utilities for information on energy efficiency incentive programs	- Create utility/real estate industry collaboration to address this
9	**Bigger picture issues**	- Provide affordable, convenient, practical education and information from

Comment [HF6]: The California Commissioning Collaborative has been working to clarify options for owners in participating in utility RCx programs. The CCC's first step was to create a brochure that summarizes the Program options and distribute it widely. These activities may be a starting point for the larger energy efficiency program communications, and can be leveraged.

	- Real estate industry may lack understanding about California's energy crisis (esp. peak demand) and about climate change and emissions issues related to energy production and building energy use	credible sources, including from real estate industry peers
10	**Lack of a champion for energy efficiency at individual companies** to set corporate energy policy or urge employees to conserve	- Make clear, understandable case studies more available (work with real estate industry on appropriate venues and examples)
11	**Lack of an agency or other entity with authority to mandate beyond-code energy efficiency in new construction or to address energy efficiency in existing buildings not scheduled for renovations**	- Work to create legislation to address this
12	**Enforcement of existing energy code is inconsistent across the state**	- Energy Commission to continue efforts to work with and educate building departments and to make energy code more understandable to enforcers
13	**Building contractors and subcontractors sometimes ignore energy code**	- Energy Commission to continue efforts to work with Contractor State License Board to educate contractors and create penalties for contractors for noncompliance with energy code

Comment [HF7]: Point of sale requirements were suggested. The California Commissioning Collaborative is currently undergoing research on the feasibility of incorporating RCx activities (or activities that prepare a building to get involved in RCx) into the due diligence process that is currently standard in the sale of commercial property. The due diligence process as it exists today focuses on assessing equipment and materials in the building, not on the building's energy efficiency or operation. We are hosting a virtual roundtable on October 8 on this subject, where commissioning providers, owners, and due diligence providers will come together to discuss the subject. A summary report of outcomes will be available.

Draft List of Obstacles to and Incentives for Resource-Efficient Private Sector Commercial Buildings

	Obstacle	Suggested Incentives
1	**Lack of sufficiently compelling value proposition or business case for building owners/managers** - Case studies of green building	- Make clear, understandable case studies more available (work with real estate industry on appropriate venues) o Include benefits and added value of green building and payback - Develop consistent methodology and approach for measurement and

	successes may be difficult to obtain - Metrics of successful green buildings may be inconsistent - Benefits of building green may not be well understood (increased market value, occupant comfort, tenant retention, lower employee absentee rates in tenant businesses, increased indoor environmental quality, outdoor environmental benefits, risk mitigation, better control of expenses, etc.) - Payback on individual measures may be too long for owner's preferred rate of return	verification of results - Subsidize the cost of green building consultants - Based on lower risks, offer lower insurance premiums - Create community recognition programs for exemplary green buildings - Guarantee faster plan check/permitting - Exempt green buildings from power outages during rolling blackouts
2	**Perceived or real higher first costs and a financial disconnect between first costs and long-term operating costs** **-** Because green buildings represent a change in business-as-usual, it is perceived to add cost **-** Certification and documentation of green buildings, e.g., through US Green Building Council, add cost and effort	- Make available case studies of successful green building projects that cost little or no more than traditional buildings - include o Proof of added value and enhanced marketability; evidence of faster leasing/selling of green buildings or spaces o Proof of higher profits (while keeping lease rate per square foot below competitors) o Proof of fewer callbacks o Testimony from satisfied tenants in green buildings – longer tenancies, lower employee absentee rates, increased comfort, etc. - Guarantee faster plan check/permitting
3	**Perception of "too difficult"** - Peers and consultants not experienced in green building - Difficult to know where to start - Human nature -resistant to change/easy to be habitual	- Make clear, understandable case studies more available - Provide lists of consultants, architects, etc. with green building experience - Subsidize the cost of these green building professionals - Identify real estate industry peers to help educate - Create a primer on green building that includes 'where to start' - Create centralized sources of credible information - Identify jurisdictions that have passed green building ordinances - Publicize the intent of the California Building Standards Commission (CBSC) to mandate green building through the state building code in the cycle starting in 2010

4	**Perception that green building is "new age" or for liberals or the environmental fringe only**	- Identify peers to help educate - Provide case studies of successful green buildings from a variety of building owners - Offer evidence of added value/the business case for building green
5	**Lack of subsidies, incentives, or mandates**	- Identify and publicize all existing financial and other incentives for green building or green building components (e.g., lower insurance premiums for green buildings, rebates for solar PV systems, faster permitting in some jurisdictions, longer tenant stays, etc.) - Create new incentives (but note CBSC's intent to mandate green buildings via the state's building code in the cycle starting in 2010)
6	**Lack of consistent green building standards across jurisdictions**	- Create consistent standards across jurisdictions (but note CBSC's intent to mandate green buildings across the state) - (Build It Green, a nonprofit, and other entities have started promoting consistent green building guidelines across jurisdictions)
7	**Bigger picture issues** - Private sector real estate industry may lack understanding about how all aspects of building siting, design, construction, maintenance, operations, etc. affect indoor and outdoor environmental quality (including climate change impacts) and why these are important	- Make information available in commonly read (by real estate industry) trade publications, local newspapers, other media, and at trade shows and conferences - Create centralized, credible sources of information